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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/314,243	05/18/1999	RAMI VERBIN	1098/0E819US	4908

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DARBY & DARBY
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NEW YORK, NY 10022

EXAMINER

SWERDLOW, DANIEL

ART UNIT PAPER NUMBER

2644

DATE MAILED: 03/18/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/314,243

Applicant(s)

VERBIN ET AL.

Examiner

Daniel Swerdlow

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 January 2004 has been entered.

Response to Amendment

2. The declaration filed on 20 January 2004 under 37 CFR 1.131 is sufficient to overcome the Balachandran reference (US Patent 6,324,268).

3. The indicated allowability of claims 6 through 10, 14 through 16, 22 through 25 and 28 through 30 is withdrawn in view of the newly discovered reference(s) to Amrany et al. (US Patent 6,192,109), Gross et al. (US Patent 6,266,348), Zurinski et al. (US Patent 6,445,733) and Dagdeviren (US Patent 5,999,564). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

Art Unit: 2644

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 through 13, 17 and 23 through 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Amrany et al. (US Patent 6,192,109).
6. Regarding Claim 1, Amrany discloses a method for improved DSL communication comprising: determining that a phone was taken off hook or put back on hook (i.e., a status of a telephone hookswitch) (column 4, lines 12-16); in response performing a restart (i.e., determining whether retraining is indicated) (column 4, lines 16-19); and in response, adjusting transmit level (i.e., determining whether power level adjustment is indicated) (column 4, lines 16-19).
7. Regarding Claim 2, Amrany further discloses performing a restart (i.e., initiating a retraining routine) (column 4, lines 16-19) and adjusting a transmit (i.e., power) level (column 4, lines 16-19).
8. Regarding Claim 3, Amrany further discloses restarting (i.e., retraining) in response to indication (i.e., determination) of hook state (column 4, lines 12-19).
9. Regarding Claim 4, Amrany further discloses determination of change in hookswitch status (column 4, lines 12-16).
10. Regarding Claim 5, Amrany further discloses in response to indication of change, adjusting transmit level, reference impedance and matching impedance (i.e., determining whether a different modem configuration profile is appropriate and selecting the different profile) (column 4, lines 16-19).
11. Regarding Claim 6, Amrany further discloses detecting that equipment is protected with micro data filters (i.e., determining whether an inline filter is installed) (column 3, lines 38-43).

Art Unit: 2644

12. Regarding Claim 7, Amrany further discloses detecting filter presence for off-hook equipment (column 3, lines 16-19).

13. Regarding Claim 8, Amrany further discloses performing a restart (i.e., initiating a retraining routine) (column 4, lines 16-19) and adjusting a transmit (i.e., power) level (column 4, lines 16-19).

14. Regarding Claim 9, Amrany further discloses performing a restart (i.e., initiating retraining) in response to hook status change of an unprotected phone (i.e., determining whether the inline filter is installed) (column 4, lines 12-19).

15. Regarding Claim 10, Amrany further discloses in response to indication of change, adjusting transmit level, reference impedance and matching impedance (i.e., determining whether a different modem configuration profile is appropriate and selecting the different profile) (column 4, lines 16-19).

16. Regarding Claim 11, Amrany discloses determining that a phone was taken off hook or put back on hook (i.e., a status of a telephone hookswitch) (column 4, lines 12-16) and monitoring echo (i.e., performing an echo channel measurement procedure) (column 4, lines 7-12).

17. Regarding Claim 12, Amrany further discloses monitoring echo and received signal levels, signal to noise ratio and other signal features (i.e., determining channel transfer function) (column 4, lines 7-12).

18. Regarding Claim 13, Amrany further discloses determination of change in hookswitch status (column 4, lines 12-16) and change in echo and received signal levels, signal to noise ratio and other signal features (i.e., channel transfer function) (column 4, lines 7-12).

Art Unit: 2644

19. Regarding Claim 17, Amrany discloses restarting (i.e., retraining) in response to indication of (i.e., obtaining information comprising) hook state, receive signal level (i.e., channel transfer function) and echo (i.e., echo measurement) (column 4, lines 12-19).

20. Regarding Claim 23, Amrany discloses detecting that phones are on hook (i.e., a hookswitch state) or equipment is protected with micro data filters (i.e., presence of an inline filter) (column 3, lines 38-43) and in response to detected line condition (i.e., based on hookswitch state and presence of inline filter) transmitting at the highest data rate supported by the transmission line (i.e., optimizing modem parameters) (column 3, lines 46-48).

21. Regarding Claim 24, Amrany further discloses adjusting transmit level, reference impedance and matching impedance (i.e., retraining) (column 4, lines 16-19).

22. Regarding Claim 25, Amrany further discloses performing a restart (i.e., initializing) (column 4, lines 16-19).

23. Regarding Claim 26, Amrany discloses restarting (i.e., retraining) in response to indication of (i.e., determining) hook state, signal to noise ratio (i.e., line quality information) receive signal level (i.e., channel transfer function), change in receive signal level (i.e., channel response) and echo (i.e., echo response) (column 4, lines 12-19).

24. Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Gross et al. (US Patent 6,266,348). Gross discloses: monitoring transmission characteristics (i.e., periodically initiating detection routines) (column 10, lines 1-3); detecting disturbance events from changes in error rate characteristics (i.e., determining whether a change in modem performance has occurred) (column 10, lines 9-14); where the change in error rate is due to an off hook event (i.e.,

Art Unit: 2644

characterizing change in modem performance as an indication of change in telephone hook status) (column 10, lines 25-29).

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 14 through 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany in view of Zuranski et al. (US Patent 6,445,733) and further in view of Dagdeviren (US Patent 5,999,564).

27. Regarding Claim 14, Amrany further discloses monitoring echo signal levels (i.e., performing measurement of echo testing signal) (column 4, lines 7-12). Therefore, Amrany anticipates all elements of Claim 14 except: scheduling and acknowledging a time frame for echo measurement; and discontinuing transmission by a first modem and initiating transmission of an echo testing signal by a second modem. Zuransky discloses scheduling and acknowledging echo measurement (Fig. 9, reference 204; Fig. 8, reference 156; column 14, lines 52-55; column 15, lines 28-40). It would have been obvious to one skilled in the art at the time of the invention to apply scheduling and acknowledging as taught by Zuransky to the method taught by Amrany for the purpose of improving efficiency by performing echo measurement only when needed. Therefore, the combination of Amrany and Zuransky makes obvious all elements of Claim 14 except discontinuing transmission by a first modem and initiating transmission of an echo testing

Art Unit: 2644

signal by a second modem. Dagdeviren discloses a central site (i.e., second) modem transmitting (i.e., initiating transmission of) an echo testing signal when a client (i.e., first) modem is quiescent (i.e., discontinuing transmission of data) (column 6, lines 20-25). It would have been obvious to one skilled in the art at the time of the invention to apply one-way echo test signal transmission as taught by Dagdeviren to the combination made obvious by Amrany and Zuranski for the purpose improving the accuracy of the measurement by avoiding interfering signals.

28. Regarding Claim 15, Amrany further discloses adjusting transmit level, reference impedance and matching impedance (i.e., retraining) in response to echo measurement (column 4, lines 12-19).

29. Regarding Claim 16, Amrany further discloses adjusting transmit level, reference impedance and matching impedance (i.e., retraining) only in response to sudden feature change (i.e., resuming normal communication otherwise) (column 4, lines 12-19).

30. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany in view of Goldstein (US Patent 5,265,151). Amrany further discloses restarting (i.e., retraining) in response to indication of (i.e., obtaining information comprising) signal to noise ratio (i.e., noise margin) and change in signal to noise ratio (column 4, lines 12-19). Therefore, Amrany discloses all elements of Claim 18 except obtaining an error rate. Goldstein discloses use of error rate as a measure of line quality (column 2, lines 46-49). It would have been obvious to one skilled in the art at the time of the invention to apply the use of error rate as taught by Goldstein to the method taught by Amrany for the purpose of measuring line quality.

Art Unit: 2644

31. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori et al. (US Patent 6,229,855) in view of Amrany. Takatori discloses an adaptive transmitter for digital transmission that measures cable loss between the central office and the remote site (i.e., performs a channel loss measurement) (column 2, lines 37-39), and adjusts transmit power to a value that provides acceptable signal to noise ratio (i.e., determining a minimum required signal level and adjusting a signal level to remain above the minimum required signal level) (column 7, lines 12-25). Therefore, Takatori anticipates all elements of Claim 20 with the exception of signal level adjustment occurring in response to a change in hookswitch state. Amrany discloses adjusting transmit level in response to change of hookswitch state (column 4, lines 16-19). It would have been obvious to one skilled in the art at the time of the invention to apply signal level adjustment in response to hookswitch state change as taught by Amrany to the transmitter taught by Takatori for the purpose of selectively compensating for voice communications.

32. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori in view of Amrany as applied to Claim 20 above, and further in view of Nimmagadda (US Patent 6,426,961). As stated above apropos of Claim 20, the combination of Takatori and Amrany makes obvious all elements of that claim. Therefore, the combination makes obvious all elements of Claim 21 except adjusting signal level according to a user selection from among multiple signal level settings. Nimmagadda discloses user selection of signal level (column 5, lines 7-11; column 15, lines 62-67). It would have been obvious to one skilled in the art at the time of the invention to apply user selection of signal level as taught by Nimmagadda to the

combination made obvious by Takatori and Amrany for the purpose of allowing the user to make the desired tradeoff between data rate and signal degradation.

33. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori in view of Goldstein and further in view of Bremer (US Patent 6,111,936). Takatori discloses: activation of a transceiver that corresponds to the modem claimed (column 4, lines 37-40); measuring a noise margin (column 4, lines 37-40); an SNR detector that determines if the SNR is too high (i.e., compares the noise margin to a threshold) (column 5, lines 21-23); decreasing transmit power level only if SNR is too high (i.e., saving the transmit power level if the noise margin does not exceed a threshold, otherwise decreasing transmit power) (column 5, lines 24-27). Therefore, Takatori teaches all elements of Claim 27 with the exception of the method comprising counting errors during a time interval, comparing the number of errors to an error threshold, saving the transmit power level if the number of errors does not exceed a threshold, otherwise decreasing the transmit power level and indicating a need to install an inline filter if the noise margin does not exceed the threshold with on hook telephone equipment. Goldstein discloses determining an error rate (i.e., counting the number of errors during a time interval) (column 2, lines 46-49) and reducing the power of the transmitted signal if the error rate is too high (column 2, lines 22-26). It would have been obvious to one skilled in the art at the time of the invention to apply error rate measurement and power adjustment as taught by Goldstein to the transmitter taught by Takatori for the purpose of ensuring a desired level of data throughput. Therefore, the combination of Takatori and Goldstein makes obvious all elements of Claim 27 with the exception of indicating a need to install an inline filter if the noise margin does not

Art Unit: 2644

exceed the threshold with on hook telephone equipment. Bremer discloses a DSL device that indicates (i.e., determines) the need to add (i.e., install) a phone (i.e., inline) filter based on a comparison of signal and distortion (i.e., noise margin) (column 9, lines 14-21) with on hook devices (column 6, lines 3-5). It would have been obvious to one skilled in the art at the time of the invention to apply filter requirement determination as taught by Bremer to the combination made obvious by Takatori and Goldstein for the purpose of reducing expense by avoiding unnecessary use of phone filters.

34. Claims 28 through 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda in view of Amrany.

35. Regarding Claim 28, Nimmagadda discloses a method for selection of mode of operation in a DSL system comprising determining the off-hook state (column 13, lines 2-7), determining if a request for data service will be put into a wait mode if voice service is in use (i.e., determining if modem transmission is allowed during the off hook state) (column 5, lines 7-11) and utilizing a low power mode of data operation (i.e., setting a minimum power level in support of a minimum data rate with a minimum noise margin) (column 5, lines 9-11). Therefore Nimmagadda anticipates all elements of Claim 28 with the exception of determining the off-hook state by detecting operational changes in a DSL modem. Amrany discloses determining hook state using changes in signal features (i.e., modem operation) (column 4, lines 12-16). It would have been obvious to one skilled in the art at the time of the invention to apply hook state determination based on signal features as taught by Amrany to the method taught by

Art Unit: 2644

Nimmagadda for the purpose of simplifying hardware by determining hookstate from measurements already available to the processor.

36. Regarding Claim 29, Nimmagadda further discloses putting data service into a wait mode (i.e., setting power to zero) until a telephone conversation is ended (i.e., waiting for an on hook transition) (column 5, lines 13-15).

37. Regarding Claim 30, the existence of low power mode inherently stores a minimum power level in a memory.

38. Regarding Claim 31, Nimmagadda further discloses initialization of a modem (column 16, lines 36-40).

39. Regarding Claim 32 Nimmagadda further discloses user indication of mode of data operation when voice service is in use (column 4, lines 65-67).

Response to Arguments

40. Applicant's arguments regarding Claim 27 have been fully considered but they are not persuasive. Applicant alleges that Bremer teaches away from providing telephone equipment in an on hook state because Bremer discloses that it is impractical to measure the distortion component when the telephone signal is silent. Examiner respectfully disagrees. Bremer discloses that distortion component measurement when the telephone signal is silent is impractical in the off hook state "because there is no guarantee of silence" (column 7, lines 21-22). As such, it is not silence that makes the measurement impractical, but the lack of silence. As applicant points out (response filed 20 January 2004: p. 11, 2nd full paragraph, 1st line), "a

Art Unit: 2644

telephone signal is silent when the telephone equipment is on hook". As such, Bremer does not teach away from on hook measurement. Further, Bremer discloses that the concepts disclosed "may be applied to on hook devices" (column 6, lines 3-5).

41. Applicant's arguments with respect to the remaining claims have been considered but are moot in view of the new ground(s) of rejection.

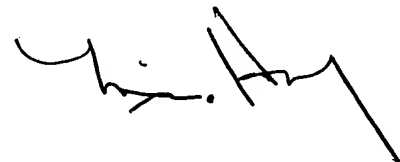
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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